APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/420,509	10/18/1999	ALEXANDER FRANZ	80398.P282	2902

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EXAMINER
FLEURANTIN, JEAN B

ART UNIT	PAPER NUMBER
2172	

DATE MAILED: 06/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)	
Office Action Summary	09/420,509	FRANZ ET AL.	
	Examiner	**Art Unit**	
	Jean B Fleurantin	2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>31 March 2003</u> .

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-88</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-88</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)   4)☐ Interview Summary (PTO-413) Paper No(s). _____ .

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5)☐ Notice of Informal Patent Application (PTO-152)

3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>17</u> .   6)☐ Other: .

DETAILED ACTION

Response to Amendment

1.   Claims 1-88 are remained pending for examination.

Information Disclosure Statement

2.   The references cited in the Information Disclosure Statement, PTO-1449, have

been fully considered.

Response to Applicant' remarks

3.   In response to applicant's argument on page 17, "Applicant does not admit that

Hargrave is prior art and reserves the right to swear behind the reference at a later date."

Thus, the argument has been noted. However, no application is submitted.

Applicant's arguments submitted on 03/31/2003 with respect to claims 1-88 have

been fully considered but, have been found persuasive only to the extent that the prior art

of record does not specifically teach the limitations "the database encodes relationships

between semantic concepts represented by the database entries." However, Wical

teaches such limitations.

In response to applicant's argument on page 17, that "the combination of Bahl and

Hargrave does not teach each and every element of the invention" the examiner

recognizes that obviousness can only be established by combining or modifying the

teachings of the prior art to produce the claimed invention where there is some teaching,

suggestion, or motivation to do so found either in the references themselves or in the

knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d

1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941

(Fed. Cir. 1992). Thus, it is respectively submitted that Bahl and Hargrave references

teach the claimed limitations as follow: a method for evaluating similarity among a plurality of data structures (thus, these tokens are analyzed to determine which word or words correspond to the sequence to the sequence of tokens, which is readable as evaluating similarity among a plurality of data structures)(see col. 1, lines 22-23), as claimed comprises analyzing each structure of said plurality of data structures to generate at least one substructure (thus, decision graph defines phonological rules which describe variations in the pronunciation of the various language components due to the context in which the component occurs; which is readable as analyzing each structure of said plurality of data structures to generate at least one substructure)(see col. 2, lines 58-61); and

matching said at least one substructure to a database having a plurality of entries to obtain at least one matching entry (thus, after both the fast match operation and the detailed match operation the search processor 1020 invokes the language model 1010 to determine if the newly selected word fits in the context of the previously selected words, in addition to paring down the list of candidate words for application to the detailed match processor the language model 1010 distinguishes between the set of homophones provided as a result of the detailed match operation the language model used in the system shown in figure 8 is a three-gram language model or stated otherwise a language model having statistics on the likelihood of occurrence of groups of three consecutive words; which is readable as matching said at least one substructure to a database having a plurality of entries to obtain at least one matching entry)(see col. 7, lines 56-64). But Bahl does not explicitly indicate generating a match value using a relative entropy value corresponding to said at least one matching entry and calculated relative to a root entry of

said plurality entries. However, Hargrave indicates "... for each n-gram segment pair producing a segment n-gram weight tuple, this method simplifies the similarity calculations used below in the retriever module as well since the dot product of the vectors now 'with the normalized weights' produces the same results as the more computationally expensive cosine measure, an example formula for normalizing the weights in the text segment vectors is: [see equation] where: Entropy.sub.i =entropy weight for a letter n-gram I from the global entropy calculation; freq.sub.ik =frequency of letter n-gram I in text segment k; and n=total number of unique letter n-grams, the normalized entropy calculation is performed in step 222 for each n-gram separately for each text segment in the source language file, this results in changing the weights such that any particular n-gram may have one weight in a first text segment with a different weight value for other text segments" (an entropy value can be calculated from a n-gram, which could be used as a root), (see col. 10, lines 29-62). Further, in columns 13-14, lines 60-5, Hargrave teaches as each n-gram is selected in turn the normalized entropy weight of the selected n-gram in the query vector is multiplied by the normalized entropy weight for the selected n-gram in each text segment in the aligned pair, it will be recalled that the normalized entropy weight for the selected n-gram in each text segment in the aligned pair is available from the posting vector, the result of this multiplication is added to the score associated with the text segment entry, as each n-gram in the query vector is processed the array accumulates a score which will be between 0.0 and 1.0 in the method of the preferred embodiment, representing the similarity between the query vector and each of the text segment vectors. Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify the teachings of

Bahl and Hargrave with generating a match value using a relative entropy value

corresponding to said at least one matching entry and calculated relative to a root entry of

said plurality entries. This modification would allow the teachings of Bahl and Hargrave

to improve the performance of the system and method to match linguistic structures using

thesaurus information, and provide an ability to fuzzy match words phrases as well as

full sentences and multiple sentence documents (see col. 3, lines 41-43).

Claim Rejections-35 U.S.C. § 103 (a)

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
>
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
>
> the prior art are such that the subject matter as a whole would have been obvious at the time the
>
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
>
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bahl

et al. (U.S. Pat. No. 5,033,087), in view of Hargrave, III et al. (U.S. Pat. No. 6,131,082)

and further in view of Wical (U.S. Pat. No. 5,887,120) ("Bahl"), (submitted by the

Applicant "Hargrave"), ("Wical").

As per claims 1, 21, 41 and 61 Bahl teaches a method for evaluating similarity

among a plurality of data structures (thus, these tokens are analyzed to determine which

word or words correspond to the sequence to the sequence of tokens, which is readable as

evaluating similarity among a plurality of data structures)(see col. 1, lines 22-23), as

claimed comprises analyzing each structure of said plurality of data structures to generate

at least one substructure (thus, decision graph defines phonological rules which describe

variations in the pronunciation of the various language components due to the context in which the component occurs; which is readable as analyzing each structure of said plurality of data structures to generate at least one substructure) (see col. 2, lines 58-61); and

matching said at least one substructure to a database having a plurality of entries to obtain at least one matching entry (thus, after both the fast match operation and the detailed match operation the search processor 1020 invokes the language model 1010 to determine if the newly selected word fits in the context of the previously selected words, in addition to paring down the list of candidate words for application to the detailed match processor the language model 1010 distinguishes between the set of homophones provided as a result of the detailed match operation the language model used in the system shown in figure 8 is a three-gram language model or stated otherwise a language model having statistics on the likelihood of occurrence of groups of three consecutive words; which is readable as matching said at least one substructure to a database having a plurality of entries to obtain at least one matching entry) (see col. 7, lines 56-64);

generating a match value using a relative entropy value corresponding to said at least one matching entry and calculated relative to a root entry of said plurality entries (thus, "... for each n-gram segment pair producing a segment n-gram weight tuple, this method simplifies the similarity calculations used below in the retriever module as well since the dot product of the vectors now 'with the normalized weights' produces the same results as the more computationally expensive cosine measure, an example formula for normalizing the weights in the text segment vectors is: [see equation] where:

Entropy.sub.i =entropy weight for a letter n-gram I from the global entropy calculation;

freq.sub.ik =frequency of letter n-gram I in text segment k; and n=total number of unique

letter n-grams, the normalized entropy calculation is performed in step 222 for each

n-gram separately for each text segment in the source language file, this results in

changing the weights such that any particular n-gram may have one weight in a first text

segment with a different weight value for other text segments" (an entropy value can be

calculated from a n-gram, which could be used as a root), (see col. 10, lines 29-62).

Further, in columns 13-14, lines 60-5, Hargrave teaches as each n-gram is selected in turn

the normalized entropy weight of the selected n-gram in the query vector is multiplied by

the normalized entropy weight for the selected n-gram in each text segment in the aligned

pair, it will be recalled that the normalized entropy weight for the selected n-gram in each

text segment in the aligned pair is available from the posting vector, the result of this

multiplication is added to the score associated with the text segment entry, as each

n-gram in the query vector is processed the array accumulates a score which will be

between 0.0 and 1.0 in the method of the preferred embodiment, representing the

similarity between the query vector and each of the text segment vectors. But, Bahl,

Hargrave do not explicitly indicate collectively <u>said database encoding relationships</u>

<u>between semantic concepts represented by said plurality of entries</u>. However, Wical

indicates a knowledge map may be generated that links both concepts representing

articles placed within a house and concepts representing types of houses to the higher

level 'house' concept, consequently the flexibility provided by the structure of the

knowledge catalog permits generation of a true knowledge map, (see Wical col. 5, lines

58-63). Thus, it would have been obvious to a person of ordinary skill in the art at the

time of the invention was made to modify the teachings of Bahl, Hargrave and Wical

with <u>said database encoding relationships between semantic concepts represented by said</u> <u>plurality of entries</u>. Further, in column 2, lines 19-22, Wical teaches the static ontologies contain knowledge concepts and present a world view of knowledge, the static ontologies to generate a theme concept for a theme term by extracting a knowledge concept from a higher level node in the hierarchical structure of the static ontologies. This modification would allow the teachings of Bahl and Hargrave to improve the performance of the system and method to match linguistic structures using thesaurus information, and provide a unique infrastructure to accurately represent concepts that defines knowledge, (see col. 2, lines 57-59).

As per claims 2, 22, 42 and 62, Bahl teaches a method according as claimed, further comprises creating said plurality of entries in said database (thus, the acoustic vectors produced from a relatively large set of acoustic inputs are generated and stored in the cluster element 1110; which is readable as creating said plurality of entries in said database)(see col. 5, lines 39-41);

processing said plurality of entries in said database (thus, language model 1010 is used to determine which word is correct from a group of homophones the language model 1010 used in this embodiment of the invention determines which word of a group is the most likely based on the preceding two words derived by the speech recognition system the words determined by this language model analysis are the output of the speech recognition system; which is readable as processing said plurality of entries in said database)(see col. 4, lines 61-68).

As per claims 3, 23, 43, 63 and 82, Bahl teaches a method according as claimed, wherein said creating further comprises creating said plurality of entries using a tool

having a graphical user interface and exporting said plurality of entries to said database

(thus, language model 1010 is used to determine which word is correct from a group of

homophones the language model 1010 used in this embodiment of the invention

determines which word of a group is the most likely based on the preceding two words

derived by the speech recognition system the words determined by this language model

analysis are the output of the speech recognition system; which is readable as creating

said plurality of entries using a tool having a graphical user interface)(see col. 4, lines 61-

68).

As per claims 4, 24, 44, 64 and 83, in addition to the discussion in claim 1, Bahl

further teaches wherein said processing further comprises verifying said plurality of

entries for validity (thus, if each of these stored vectors is considered to be a point in a

state-space defined by a state vector of possible acoustic features, then the set of all

points produced by the training data may be grouped into clusters of points in the

state-space, each point in a given cluster represents a one centisecond sample of a vocal

sounds which is statistically similar to the sounds represented by the other points in the

cluster, each of the clusters in the state space may be thought of as a being representative

samples of a probability distribution each of these probability distributions which may for

example be Gaussian distributions defines a prototype for a label; which is readable as

verifying said plurality of entries for validity) (see col. 5, lines 39-54).

As per claims 5, 25, 45, 65 and 84, Bahl teaches a method according as claimed,

wherein said processing further comprises storing said each entry of said plurality of

entries together with said corresponding relative entropy value in a compressed format

(thus, the step 1804 generates a question of the form $x_i \epsilon S_i$ which

minimizes the conditional entropy of the generating data that is marked "false" and which

produces a net reduction in the entropy of the checking data, the algorithm used in the

step 1804 is described below in reference to FIGS. 9A and 9B, if this question is "good"

as determined, at step 1804, step 1806 causes it to be stored in the pylon at step 1810;

which is readable as further comprises storing said each entry of said plurality of entries

together with said corresponding relative entropy value in a compressed format) (see col.

15, lines 31-38).

As per claims 6, 26, 46, 66 and 85, Bahl teaches a method according as claimed,

further comprising extracting from a lexicon database having a plurality of elements each

element associated to said each structure (thus, extracts all feneme sequences

corresponding to individual phonemes in the training text these feneme sequences are

grouped according to the phonemes they represent; which is readable as extracting from

a lexicon database having a plurality of elements each element associated to said each

structure)(see col. 9, lines 55-58), assigning at least one code of said each element to said

each structure (thus, determines that the last leaf has been processed step 11016 is

executed which stores all of the compound base forms in a table indexed to the leaves of

the decision tree; which is readable as assigning at least one code of said each element to

said each structure)(see col. 19, lines 50-56), and retrieving said at least one code during

matching to obtain said at least one matching entry (thus, invokes the subroutine NEXT

LEAF to select the first leaf in the tree. Step 11006 then collects all feneme sequences

that belong to the selected leaf, these feneme sequences are clustered at step 11008 using

the same algorithm described above in reference to figure 7, assuming that the data used

to generate and check the decision tree includes approximately 3000 feneme sequences

for each phoneme; which is readable as retrieving said at least one code during matching to obtain said at least one matching entry)(see col. 19, lines 24-32).

As per claims 7, 27, 47 and 67, Bahl teaches a method according as claimed, further comprising reading lexical probability files and assigning a probability value to said each element of said plurality of elements in said lexicon database (thus, each of the transitions tr1 and tr2 has a transition probability and a vector of 200 probability values representing the probability that any of the 200 fenemes may be produced during the transition, the transition tr8 is a null transition; which is readable reading lexical probability files and assigning a probability value to said each element of said plurality of elements in said lexicon database)(see cols. 6-7, lines 65-3).

As per claims 8, 17, 28, 37, 48, 57, 68, 77 and 86, Bahl teaches a method according as claimed, wherein each structure of said plurality of data structures is a representation of a linguistic expression (thus, by analyzing a training text and corresponding vocalizations, can generate a set of phonological rules, these rules are applied to a speech recognition system in the embodiment described below, they may also be applied to a speech synthesis system to change the pronunciation of a word depending on its context, or they may simply be analyzed by linguists to increase their knowledge of this arcane art; which is readable as wherein each structure of said plurality of data structures is a representation of a linguistic expression)(see cols. 3-4, lines 63-2).

As per claims 9, 18, 29, 38, 49, 58, 69, 78 and 87, Bahl teaches a method according as claimed, wherein said database is a thesaurus hierarchy including a root entry, said plurality of entries depending from said root entry (thus, these words are arranged in a tree structure for use by the processor 1006, so that words having common

initial phonemes have common paths through the tree until they are differentiated; which

is readable as wherein said database is a thesaurus hierarchy including a root entry, said

plurality of entries depending from said root entry)(see col. 6, lines 33-37).

As per claims 10, 19, 30, 39, 50, 59, 70, 79 and 88, the limitations of claims 10,

19, 30, 39, 50, 59, 70, 79 and 88 are rejected in the analysis of claim 1, and these claims

are rejected on that basis.

As per claims 11, 20, 31, 40, 51, 60, 71 and 80, Bahl teaches a method according

as claimed, wherein said each element in said lexicon database is a word (thus, each word

in a dictionary is represented as a sequence of phonemes, which is readable as wherein

said each element in said lexicon database is a word)(see col. 6, lines 23-25).

As per claims 12, 32, 52 and 72, in addition to the discussion in claim 1, Bahl

further teaches steps of creating a plurality of entries in a database (thus, the acoustic

vectors produced from a relatively large set of acoustic inputs are generated and stored in

the cluster element 1110; which is readable as creating a plurality of entries in a database)

(see col. 5, lines 39-41).

As per claims 13, 33, 53 and 73, Bahl teaches a method according as claimed,

further comprising storing said each entry of said plurality of entries together with said

corresponding relative entropy value in a compressed format (thus, the step 1804

generates a question of the form $x.sub.i .epsilon. S.sub.i$ which minimizes the conditional

entropy of the generating data that is marked "false" and which produces a net reduction

in the entropy of the checking data, the algorithm used in the step 1804 is described

below in reference to figures 9A and 9B, if this question is "good" as determined at step

1804, step 1806 causes it to be stored in the pylon at step 1810; which is readable as

further comprises storing said each entry of said plurality of entries together with said corresponding relative entropy value in a compressed format)(see col. 15, lines 31-38).

As per claims 14, 34, 54 and 74, Bahl teaches a method according as claimed, further comprises creating said plurality of entries using a tool having a graphical user interface (thus, determines which word of a group is the most likely based on the preceding two words derived by the speech recognition system the words determined by this language model analysis are the output of the speech recognition system; which is readable as creating said plurality of entries using a tool having a graphical user interface)(see col. 4, lines 61-68);

exporting said plurality of entries to said database (thus, by replacing the each of the 200 value label probability vectors associated with the various transitions in the word model by a single 200 value probability vector, each element in this vector is the largest corresponding value in all of the vectors used in the model; which is readable as exporting said plurality of entries to said database)(see col. 7, lines 48-53).

As per claims 15, 35, 55 and 75, in addition to the discussion in claims 1 and 12, Bahl further teaches analyzing each structure of said plurality of data structures to generate at least one substructure (thus, decision graph defines phonological rules which describe variations in the pronunciation of the various language components due to the context in which the component occurs; which is readable as analyzing each structure of said plurality of data structures to generate at least one substructure)(see col. 2, lines 58-61); and

matching said at least one substructure to a database having a plurality of entries to obtain at least one matching entry (thus, after both the fast match operation and the

detailed match operation the search processor 1020 invokes the language model 1010 to

determine if the newly selected word fits in the context of the previously selected words,

in addition to paring down the list of candidate words for application to the detailed

match processor the language model 1010 distinguishes between the set of homophones

provided as a result of the detailed match operation the language model used in the

system shown in figure 8 is a three-gram language model or stated otherwise a language

model having statistics on the likelihood of occurrence of groups of three consecutive

words; which is readable as matching said at least one substructure to a database having a

plurality of entries to obtain at least one matching entry) (see col. 7, lines 56-64).

As per claims 16, 36, 56 and 76, in addition to the discussion in claim 6, Bahl

further teaches verifying said plurality of entries for validity (thus, the feature selection

element 1108 combines selected values of the vector signal SA to generate a vector AF of

acoustic feature signals; which is readable as verifying said plurality of entries for

validity)(see col. 5, lines 30-32);

reading lexical probability files (thus, each transition has a probability associated

with it and, in addition each of these transitions except the ones indicated by broken lines

'i.e. tr11, tr12, and tr13' has associated with it a vector of 200 probability values

representing the probability that each of the respective 200 possible labels occurs at the

transition, the broken-line transitions represent transitions from one state to another in

which no label is produced; which is readable as reading lexical probability files) (see

cols. 6-7, lines 63-3);

assigning a probability value to said each element of said plurality of elements in

said lexicon database (thus, samples of a probability distribution each of these probability

distributions which may, for example be assumed to be Gaussian distributions defines a

prototype for a label or feneme, when the acoustic processor 1004 is in its training mode

the cluster element provides the clusters to the prototype element which fits a Gaussian

distribution to each cluster defining a prototype label which represents all points in the

cluster, when the acoustic processor is in its labeling mode these prototypes are used by

the labeller 1114 to assign labels to the feature vectors produced by the feature selection

element 1108; which is readable as assigning a probability value to said each element of

said plurality of elements in said lexicon database)(see col. 5, lines 50-62).

As per claim 81, in addition to the discussion in claim 1, Bahl further teaches a

database having a plurality of entries (thus, the acoustic vectors produced from a

relatively large set of acoustic inputs are generated and stored in the cluster element

1110; which is readable as a database having a plurality of entries)(see col. 5, lines 39-

41).

5.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Sanfilippo US Patent Number 6,260,008 relates to a system for

disambiguating syntactic word multiples.

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of

time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than

SIX MONTHS from the mailing date of this final action.

Conclusion

7.   Any inquiry concerning this communication from examiner should be directed to

Jean Bolte Fleurantin at (703) 308-6718. The examiner can normally be reached on

Monday through Friday from 7:30 A.M. to 6:00 P.M.

If any attempt to reach the examiner by telephone is unsuccessful, the examiner's

supervisor, Mrs. KIM VU can be reached at **(703) 305-8449.** The FAX phone numbers

for the Group 2100 Customer Service Center are: *After Final* **(703) 746-7238,** *Official*

(703) 746-7239, and *Non-Official (703) 746-7240.* NOTE: Documents transmitted by

facsimile will be entered as official documents on the file wrapper unless clearly marked
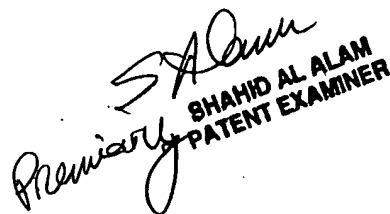
"DRAFT".

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the Group 2100 Customer Service Center receptionist

whose telephone numbers are **(703) 306-5631, (703) 306-5632, (703) 306-5633.**

Jean Bolte Fleurantin

June 11, 2003

JBF/

SHAHID AL ALAM
PRIMARY PATENT EXAMINER